

ABSTRACT

The present invention leverages an ellipsoid method with an approximate separation oracle to analyze network data routes for data dissemination by a source, yielding an optimization analysis process which compensates for networks with limited capacity links, traditionally an NP-hard problem. In one instance of the present invention, by utilizing a novel generalization of an ellipsoidal means to work with an approximate separation oracle, a primal as well as a dual linear program is solved within the same approximation factor as the approximate separation oracle. Performance of the present invention is within a 1.6 factor.